

CASTLEMAINE NATURALIST

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EXTRACTS FROM THE RAOU SCIENTIFIC DAY PAPERS ON HONEYEATERS. Part 2

Attempts to preserve biodiversity in modified landscapes requires information about how much biodiversity do we need, and how much we can afford to lose in a fragmented environment. Honeyeaters as important pollinators play a significant role in maintaining floral diversity, and hence community composition, in these landscapes. No single remnant contains all the resources necessary to retain birds throughout the year, necessitating movement between remnants. Birds decline when the nectar is not available. Some critical nectar-producing plants are poorly represented in a degraded habitat and not adequately protected. Replacing understory in a vegetation community is just as important as replanting trees.

Honeyeaters and honeybees compete for nectar from a wide range of Australian plants, and honeybees can take out 50 to 60% of the nectar, which reduces the efficient spread of pollen. This consumption of floral resources by honeybees can influence not only the behaviour and abundance of nectar-feeding birds, but also the reproductive success of the plants. For example, New Holland Honeyeaters defending *Callistemon rugulosus* flowers respond to nectar losses from honeybees by visiting the flowers less frequently. As a result, fruit production for *Callistemon* is depressed when large numbers of honeybees displace honeyeaters from flowers. At the flowers of *Correa reflexa*, honeybees remove pollen rather than nectar, which does not deprive the birds, but the loss of pollen results in honeyeaters delivering less pollen to the stigmas of the receptive *Correa*, and ultimately to reduced seed production.

Little is known about tropical honeyeaters, although they represent one-third of all Australian species. Compared to southern honeyeater assemblages, the "Top End" has more large honeyeaters (including friarbirds) and more very small honeyeaters. Flowers of at least 67 species of Top End plants are visited by honeyeaters including 21 eucalypts, 5 paperbarks, and 6 grevillea species. Of the eucalypts, only three possess red or orange flowers, and significantly, two of these flower during the dry season, while those with creamy-white blossoms are wet-season flowerers.

Only two species have been studied in any detail. One, the diminutive mangrove-specialised Red-headed Honeyeater, defends tiny territories around *Bruguiera exarista* plants during the breeding season. Another small species, the Rufous-banded Honeyeater, has become the "sparrow" of Darwin and suburbs, in the absence of introduced birds. In this competition-free and virtually predator-free environment, it breeds almost year-round.

Returning south, the Helmeted Honeyeater is sedentary and colonial, inhabiting moist environments rich in manna and honeydew. Its colonial lifestyle should permit good breeding if given a chance, but its habitat has been vulnerable to draining, clearing, and fragmentation, which favours the invasion of Bell Miners. In recent years an average of 1.3 young Helmeted Honeyeaters have been raised to independence per pair per season in the Reserve, and 79% of these have survived, so that more than sufficient young are surviving to replace the 30% annual mortality of breeding adults BUT only 56% of the population bred which is characteristic of a population that has saturated its environment. A continuing decline in the availability of appropriate habitat is evident with Bell Miners occupying former Helmeted Honeyeater territories and overrunning common boundaries. The removal of marginal Bell Miner colonies increased the reproductive participation rate by 15%. The small increase of breeding population in 1991-92 is the first tangible sign that the Helmeted Honeyeater may be saved from extinction, coupled with a captive breeding program to return progeny to the wild.

The future directions for honeyeater research suggest the need for more basic natural history from the tropic north and arid centre, while the wealth of species in New Guinea or other Pacific Islands remain untouched. Little is known about mortality rates, dispersal and movements of honeyeaters. These are important features when we consider the conservation needs of honeyeaters. Highly mobile species such as Regent and Painted Honeyeaters are especially difficult to study. Helmeted Honeyeater, Black-eared Miners and Regent Honeyeaters are suffering from other aggressive honeyeaters such as Noisy Honeyeaters and Bell Miners which may need to be controlled more. Honeyeaters display a diversity of social organisation and provide a rich opportunity to relate social behaviour to ecology. Finally, honeyeaters as major pollinators can also influence the plant community. With habitat loss, fragmentation and degradation occurring throughout Australia's ecosystems, this interaction should be all important as a focus of future investigation.

C.M.

THE WILD LIFE OF A GREAT CITY

The City of London Polytechnic carried out an audit of the City's open spaces last year. The spaces identified are, for the most part, tiny

oases formed by old burial grounds and churchyards, open pavements and pedestrian areas, court yards, traffic islands and ornamental road dividers, all of which help the city to breathe and offer its inhabitants an occasional glimpse of the natural world, even of wildlife, which against the odds, continues to survive even in the concrete jungle.

Grey Squirrels, Mice and Rats are about the only mammals to be found, but birds, particularly Feral Pigeons and House Sparrows have proved more adaptable.

An audit of birds was carried out on one winter's day in two areas. The number counted in one area ranged from 25 at 9 am to 49 at 1 pm, with an average hourly count of 34.8 birds. Nine species were seen throughout the day, but the vast majority (86.5%) were Sparrows, Pigeons and Black-birds. At the second area the numbers ranged from 89 at 10.30 am to 24 at 4.30 pm, with an average hourly count of 60.4. Eight species were recorded, the majority (78.7%) being Mallard and Black-headed Gulls. Among the less common birds seen were Grey and Pied Wagtails and Greenfinches.

How would the CBD of Melbourne rate?

M Oliver.

JUNE AT SANDON

Birds seen at the bird bath were

Crimson Rosellas	Buff-rumped Thornbills	White-eared Honeyeaters
Grey Fantail	Brown Thornbills	Yellow-faced Honeyeaters
Scarlet Robin (pair)	Yellow Thornbills	Silvereyes
Striated Thornbills	White-thr. Treecreeper	

Birds seen on the property were

Pacific Black Duck (pr)	Yellow Robins (pair)	White-naped Honeyeaters
Wedge-tailed Eagle	Hooded Robin	Brown-headed Honeyeaters
Masked Lapwing (pair)	Crested Shrike-tit (pr)	White-plumed Honeyeaters
Galahs	Golden Whistler (pair)	Spotted Pardalotes
Eastern Rosellas	Grey Shrike-thrush	Striated Pardalotes
Red-rumped Parrots (pr)	Speckled Warbler (pair)	Diamond Firetail
Fantailed Cuckoo (found dead, 13/6)	Yellow-rumped Thornbill	White-winged Choughs
Owlet Nightjar (pair)	Varied Sittellas	Magpies
Kookaburra	Red Wattlebirds	Grey Currawong
Welcome Swallow (pair)	Yellow-tuft. Honeyeaters	Australian Raven
	Fuscous Honeyeaters	

Contrib Susanna Starr.

THE INGLEWOOD EXCURSION

The excursion to Inglewood Botanical Gardens via Dunolly and return via Laanacoorie was held on a very cold overcast day, so that viewing conditions were very poor. Some highlights of the trip were

- The flock of Brown-headed Honeyeaters on Pincushion Hakea (Tarnagulla)
- The Yellow-plumed and Spiny-cheeked Honeyeaters (Inglewood)
- The mass of Flame Heath in full flower (Tarnagulla)
- The Darters, swimming, flying and perching (Laanacoorie).
- Three ducks flying overhead. Shovellers? (Bells Swamp).
- An abundance of Musk Lorikeets (Dunolly Fitness Trail)
- The fine show of Spreading Wattle (Smith's Reef Forest)
- Some Golden Wattle in full flower (Tarnagulla and Dunolly)
- The effective chasing of numerous honeyeaters from a flowering Yellow Gum by a circling wattlebird. (Inglewood)

The complete bird list for the trip had 54 species, and was

Pelican	Eastern Swamphen	White-th Treecreeper (h)
Australasian Grebe	Galah	Red Wattlebird
White-faced Heron	Musk Lorikeet	Spiny-cheeked Honeyeater
Little Pied Cormorant	Red-rumped Parrot	Yellow-tufted Honeyeater
Little Black Cormorant	Eastern Rosella	Yellow-plumed Honeyeater
Darter	Long-billed Corella	White-plumed Honeyeater
Sacred Ibis	Sulphur-crest Cockatoo	White-naped Honeyeater
Yellow-billed Spoonbill	Feral Pigeon	Brown-headed Honeyeater
Black Duck	Common Bronzewing	Fuscous Honeyeater
Shoveller?	Kookaburra	Striated Pardalote
Mountain Shelduck	White-browed Babbler	Spotted Pardalote
Wood Duck	Welcome Swallow	Red-browed Firetail
Musk Duck	Grey Shrike-thrush	Diamond Firetail
Whistling Kite	Scarlet Robin	Magpie Lark
Wedge-tailed Eagle	Blue Wren	White-winged Chough
Masked Lapwing	Willie Wagtail	Magpie
Dusky Moorhen	Striated Thornbill	Little Raven
Coot	Weebill	Australian Raven

OBSERVATIONS

AUSTRALIAN HOBBY was seen flying over the Barker Street and Templeton Street intersection at 2 pm on 30 June. (EP)

MASKED LAPWINGS. A flock of 48 was seen in a paddock beside the Bridgewater Road, just beyond the Cairn Curran Turnoff on July 4. (EP)

CRESTED PIGEONS. Two reports from close to Castlemaine. A pair was noticed at Castlemaine North (RM) and near the Maldon turnoff (EP).

WIRY MISTLETOE has been growing on Whirrakee Wattle in Kaweka. (FB)

CORELLA FLOCK. A flock of about 100 birds flew over the town, travelling North-east.

COLLARED SPARROWHAWK was observed in the pine plantation. (SK).

PIED CURRAWONGS have been nesting at Harcourt North. (GS)

TALL GREENHOODS have been in flower in Kaweka. (FB)

ROSE ROBINS ABSENT. Rose Robins have not been seen by club members in the Botanic Gardens this year, despite searches by several members.

COOTAMUNDRA WATTLE in flower in Etty Street and Parker Street West on July 23. Some was flowering at Sedgewick on Jul 17. (EP)

FOREST CREEK PLANT LIST

*Acacia baileyana	Cootamundra wattle	Several plants.
Acacia mearnsii	Black wattle	Near Railway Avenue.
Acacia melanoxylon	Blackwood	Near Railway Avenue.
*Allium vineale	Crow garlic	Widespread. Garlic-like.
*Anagallis arvensis	Scarlet pimpernel	Scattered localities.
*Aster subulatus	Aster weed	Mostly in western part.
*Atriplex prostrata	Hastate orache	Scrambling plant.
*Avena sp	Wild oat	Widespread.
*Bromus catharticus	Prairie Grass	Widespread grass.
*Bromus hordeaceus	Soft brome	Widespread grass.
Cassinia arcuata	Coffee bush	Scattered localities
*Cichorium intybus	Chicory	Blue-flowered daisy.
*Cirsium vulgare	Spear thistle	Erect prickly thistle.
*Conium maculatum	Hemlock	Tall ferny-leaved plant.
*Cotula coronopifolia	Water buttons	Yellow button-flowers.
Crassula helmsii	Swamp stonecrop	Small aquatic plant.
*Crataegus monogyna	Hawthorn	Scattered. Small tree.
*Cynodon dactylon	Couch grass	Widespread grass.
*Cyperus eragrostis	Grass flat-sedge	Sedge to about 30 cm high.
*Cyperus tenellus	Tiny flat-sedge	Tiny grasslike plant.
*Cytisus palmensis	Tree lucerne	Tree with white pea-flowers.
Epilobium billardierianum ssp		
billardierianum	Willow herb	Paired oval leaves.
E. billardierianum ssp		
cinereum	Willow herb	Alternate narrow leaves.
*Eucalyptus globulus	Blue gum	Sapling near tennis courts.
E. camaldulensis	Red gum	Near railway bridge.
*Fraxinus oxycarpa	Desert ash	Tree.
*Galium aparine	Cleavers	Scrambling climber.

* <i>Genista monspessulana</i>	Cape broom	Near Barker St bridge.
* <i>Hedera helix</i>	Ivy	Climber near tennis courts.
* <i>Hypochoeris radicata</i>	Cat's ear	Dandelion-like daisy.
* <i>Juncus acutus</i>	Spiny rush	Widespread. Dark green.
* <i>Juncus articularis</i>	Jointed rush	Scrambling. Knobby leaves.
* <i>Lactuca serriola</i>	Prickly lettuce	Tall yellow-flowered daisy.
* <i>Lepidium africanum</i>	Common peppergrass	Abundant on creek bank.
* <i>Lycium barbarum</i>	Chinese box-thorn	Prickly shrub.
<i>Lythrum hyssopifolia</i>	Small loosestrife	Near edge of water.
* <i>Malus x domestica</i>	Apple	Several -information centre.
* <i>Mentha spicata</i>	Spearmint	Common garden herb.
* <i>Modiola caroliniana</i>	Red-flowered mallow	Scrambling plant.
<i>Oxalis perennans</i>	Forest wood sorrel	Uncommon. Yellow flowers.
* <i>Paspalum dilatatum</i>	Paspalum	Widespread.
* <i>Paspalum distichum</i>	Water-couch	Near tennis courts.
* <i>Phalaris minor</i>	Lesser canary-grass	Tall tussock-grass.
<i>Phragmites australis</i>	Common reed	Abundant along stream.
* <i>Plantago coronopus</i>	Buck's-horn plantain	Dryer areas.
* <i>Plantago lanceolata</i>	Flat-weed	Dry areas. Common lawn weed.
* <i>Plantago major</i>	Greater plantain	Large-leaved plantain.
* <i>Polypogon monspeliensis</i>	Annual beard-grass	Bottle-brush like flowers.
* <i>Populus alba</i>	Silver poplar	Western reserve.
<i>Pratia concolor</i>	Poison pratia	Prostrate. One specimen
* <i>Prunus nigra</i>	Purple cherry-plum	Several seedlings.
* <i>Quercus petraea</i>	Sessile oak	Near information centre.
* <i>Quercus robur</i>	English oak	Near information centre etc.
* <i>Raphanus raphanistrum</i>	Wild radish	Uncommon in creek area.
* <i>Rosa rubiginosa</i>	Briar rose	Prickly shrub.
* <i>Rubus fruticosus</i>	Blackberry	Scattered localities
* <i>Rumex conglomeratus</i>	Clustered dock	Near tennis courts.
* <i>Rumex crispus</i>	Curled dock	Widespread.
* <i>Salix alba</i>	Whitecrack willow.	Scattered trees.
* <i>Schinus molle</i>	Peppercorn	Seedlings.
* <i>Solanum nigrum</i>	Black nightshade	Tiny black berries.
* <i>Sonchus oleraceus</i>	Sow thistle	Erect daisy with milky sap.
* <i>Tamarisk</i>	Tamarisk	Small tree.
* <i>Tragopogon porrifolius</i>	Salsify	Daisy with reddish flowers.
* <i>Trifolium angustifolia</i>	Narrow-leaf clover	Scattered.
* <i>Trifolium dubium</i>	Suckling clover	Weedy areas.
* <i>Trifolium fragiferum</i>	Strawberry clover	Pink-flowered clover.
* <i>Trifolium repens</i>	White clover	Northern end.
<i>Typha orientalis</i>	Bulrush or Cumbungi	Common.
* <i>Ulex europaeus</i>	Gorse or Furze	Very prickly shrub.
* <i>Vicia savita</i>	Common vetch	Scrambling pea.
* <i>Vinca major</i>	Blue periwinkle	Creeper. Along bank.
* <i>Vitus vinifera</i>	Grape	Near Barker St bridge.

Plants not native to the area are marked with *.

The list is for the portion of Forest Creek, from the junction with Barkers Creek, and extending eastwards to Colles Bridge. Plants are those recorded from the flat stream bed e.g. the more or less flat area between the stone walls. March 1992. Compiled by E. Perkins.

KOOLAMURT AUGUST CAMPOUT OF WVFNCA.

The August campout of the Western Victoria Field Naturalists Clubs Association will be at the Koolamurt Park Scout Camp, Spring Gully Road, Bendigo, and will be hosted by the Bendigo F.N.C.

Fri 21 Aug. Slide show of One-tree Hill Regional Park. Supper.

Sat 22 Aug. Early morning walk through Diamond Hill Reserve, which is rich in wildflowers and bird life. It is ideally placed for those hardy souls [e.g. CFNC members] wishing to enjoy the delights of an early morning stroll before breakfast, although nothing formal is planned.

Sat 22 Aug. 9.00 a.m. Whipstick. Leave Koolamurt for excursion through the varied habitats of the Kamarooka/Whipstick Forest. Hot water, tea and coffee will be provided along the way. Bring your own lunch.

Sat 22 Aug. Tea at Koolamurt. Make your own arrangements for tea. Tea will be followed by a delegates meeting at 6.30 pm.

Sat 22 Aug. Introduced Predators. Brian Coman will reveal his intimate experiences with introduced predators. 8:00 pm at Koolamurt.

Sun 23 Aug. One Tree Hill Regional Park. Walk on the wild side. Walk led by David McDonald. Followed by a barbecue at Koolamurt. Cost \$5.00/head.

You will need to bring bedding requirements. Only mattresses are provided. The camp is self-catering. You will need to provide your own meals except for the Sunday Lunch barbecue. The camp is equipped with hot showers, and cutlery and crockery are provided. Or make a day trip. For bookings, contact Bendigo FNC, PO Box 396, Bendigo 3550. Cost is \$6/day.

C . A . E . TOURS

Brochures are available from the secretary
CAPE YORK, THURSDAY ISLAND and GULF COUNTRY. Sept 19 - Oct 4, 1992.
GAWLER RANGES. Oct 19-25, 1992. 7 day camping tour.
N.S.W. SOUTH COAST. Oct 19-22. Four day maritime history tour.
FLINDERS ISLAND. Oct 23-26. Four-day natural history tour.

SUBSCRIPTIONS 1992

Single \$12; Family \$18; Student/pensioner \$8; Supporting member \$20
Newsletter posted: subscription plus \$6

CASTLEMAINE F.N.C. PROGRAM

Fri 14 Aug. WILDFLOWERS AND BIRDS OF CENTRAL AUSTRALIA with Chris Morris. 8 pm at High School.

Sat 15 Aug. BIRDWATCHING BEHIND MT TARRENGOWER. Leader: M Oliver. Meet S.E.C., Mostyn St at 1.30 pm sharp.

Thurs 20 Aug. THURSDAY EXCURSION. Joint CFNC/U3A birdwatching excursion to Sandon. Meet Cont Ed., Templeton St at 9.30 am. Leader: S Starr.

22-23 Aug. KOOLAMURT CAMPOUT A WVFNC campout on the outskirts of Bendigo, organised by Bendigo FNC. See the separate notice.

Thurs 27 Aug. BUSINESS MEETING 7.30 pm at 38 Campbell Street.

Sat 12 Sept. WHIPSTICK EXCURSION. Leave 27 Doveton St at 10.00 am sharp. Leader is Bill Flentje of Bendigo F.N.C.

Thurs 17 Sept. THURSDAY EXCURSION. Joint CFNC/U3A birdwatching excursion. Meet Cont Ed. car park, Templeton St at 9.30 am. Leader E Perkins.

Fri 9 Oct. BIRDS OF THE MALLEE. Speaker is Charlie Silveria. Mr Silveria has spent 15 years working on the ecology of the Mallee. 8 pm.

Sat 10 Oct. CROCODILE TRACK. Walk along the Crocodile Track, Fryerstown. Leader is E. Perkins.

Sun 11 Oct. MALDON STEAM TRAIN WILDFLOWERS with Bendigo Native Plant Group. See the Smith's Reef wildflowers. 1 pm, 2 pm or 3 pm. Cost \$7. Profit towards One Tree Hill appeal.

Sat 31 Oct. KALIMNA WALK. Festival program. 10.00 am and 2.00 pm.

Sat 7 Nov. KALIMNA WALK. Festival program. 10.00 am and 2.00 pm.

Fri 13 Nov. FLOWERS, FEATHERS AND FUN. Ramblings here and abroad. Speaker is Reg Johnson.

SUPPER: Aug L Starr & A Van Gemert Sept B Perry & K Meehan

COMMITTEE: Barbara Maund (pres), George Broadway (vp & treas), Brenda Envall (vp), Maggie Oliver (sec), Chris Norwood, Shirley Parnaby, Rita Mills (newsletter & public officer), Kaye Turner (programs), Beris Perry, Chris Morris, Clodagh Norwood and Ern Perkins (asst newsletter).

Castlemaine Field Naturalist's Club Inc. P.O. Box 324, Castlemaine 3450.